

## **ABSTRACT OF THE DISCLOSURE**

A method and apparatus for recognizing signals in a mobile communication system reduces a mean acquisition time based on a signal-to-noise ratio of a received signal and the moving speed of user equipment which transmitted the signal. This apparatus includes a multi-path searcher of a base station modem which analyzes a signal from the moving user equipment using a Doppler estimator, decides the moving speed of the user equipment, and transmits a control signal proportional to the moving speed to coherent and non-coherent accumulators. A signal-to-interference ratio estimator then decides a signal-to-noise ratio of the signal and compensates for a control signal transmitted to each accumulator. Through this approach, higher reliability is achieved than other multi-path searchers, which merely consider the moving speed of the user equipment. Also, a mean acquisition time taken to recognize and search signals and an initial synchronization time are reduced and wireless resources of a base station are saved.